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# CORN WITH THE BORER

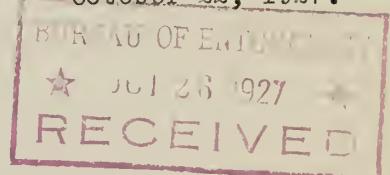
Issued in the interest of corn-borer control conducted by the United States Department of Agriculture in cooperation with the State departments of agriculture and State agricultural colleges in New York, Pennsylvania, Ohio, Michigan, and Indiana.

No. 21

Washington, D. C.

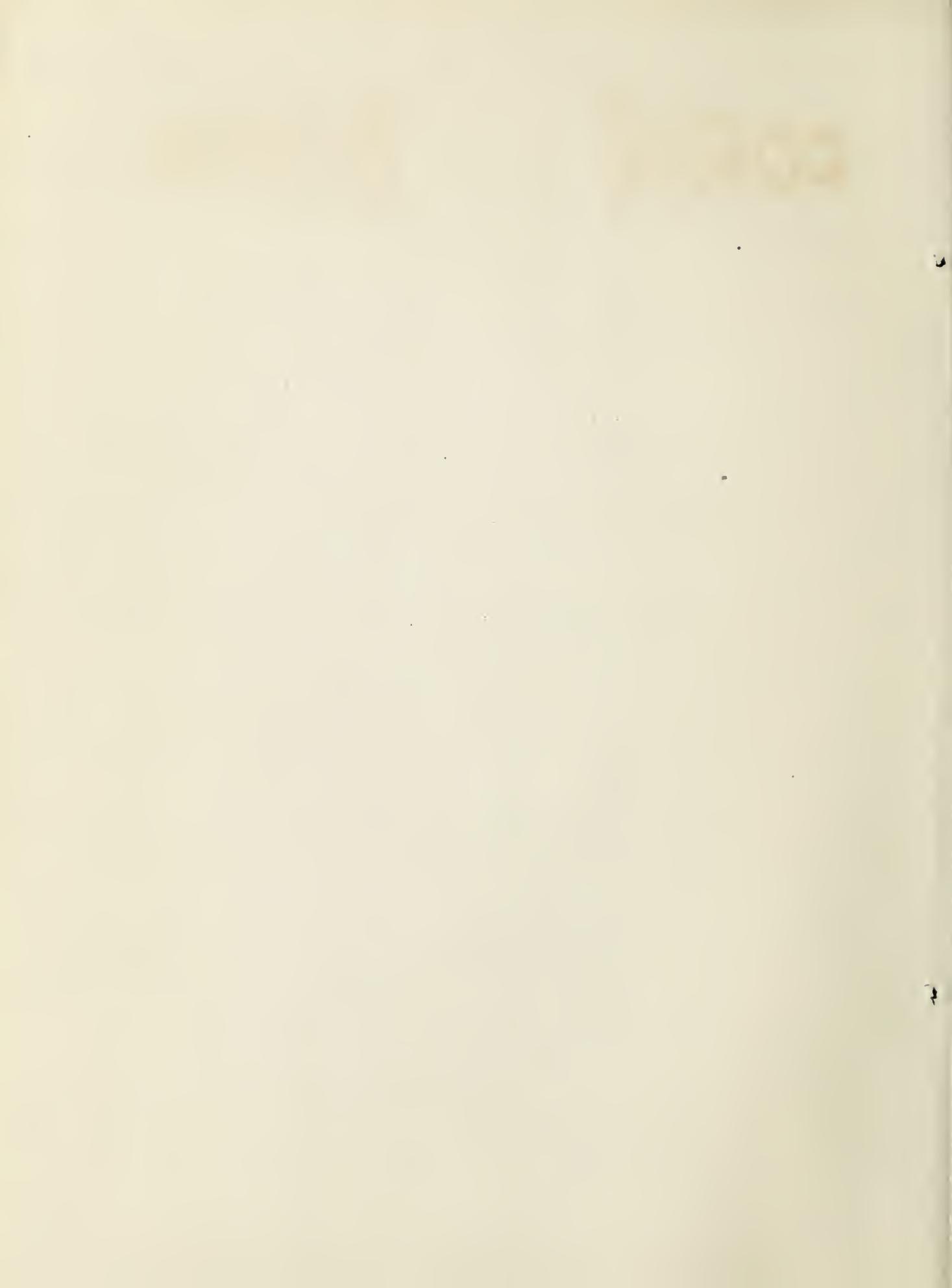
October 22, 1927.

## STATEMENT BY THE SECRETARY OF AGRICULTURE ON RESULTS OF EUROPEAN CORN-BORER CAMPAIGN



 One and a half times as many borers in 1927 as in 1926 as compared with four times as many in 1926 as in 1925, or one-sixth of the normal increase in the number of borers in the western infested area is announced by the U. S. Department of Agriculture with the completion of its survey of the results of the \$10,000,000 spring control campaign in New York, Pennsylvania, Ohio, Indiana, and Michigan authorized by Congress. The number of borers reported for the whole campaign area is 14 per 100 stalks as compared with 9 in 1926. In Ohio and New York there were decreases in the number of borers per 100 stalks. In Ohio the decrease was from 6 borers per 100 stalks in 1926 to 5 per 100 stalks in 1927. New York's decrease was from 12 borers per 100 stalks in 1926 to 10 in 1927. In Michigan and Pennsylvania there were increases as follows: In Michigan 27 borers per 100 stalks in 1927 as compared with 12 in 1926, and in Pennsylvania, 24 borers per 100 stalks as compared with 7 in 1926. None of the counties in Indiana was included in the survey, as the infestation is as yet less than 1 borer per 100 stalks.

The reduction of the rate of increase in the number of borers this year to one-sixth of that in 1926, when no concerted control of the borer was attempted, indicates the effectiveness of the control measures employed in the recent spring campaign, but these results also show most emphatically that the borer is a serious menace. The department's opinion continues to be that the spread of the borer to the entire Corn Belt is inevitable and that it is a situation to which the farmers, the State departments of agriculture, and the State agricultural colleges must adjust their plans. At the same time the control measures used in the spring were sufficiently effective to lead the department to believe that serious commercial damage to the Nation's \$2,000,000,000 corn crop can be avoided to a considerable extent. The results of the 1927 campaign are in a very large measure due to the cooperation given by farmers in the infested area in carrying out the clean-up measures recommended.

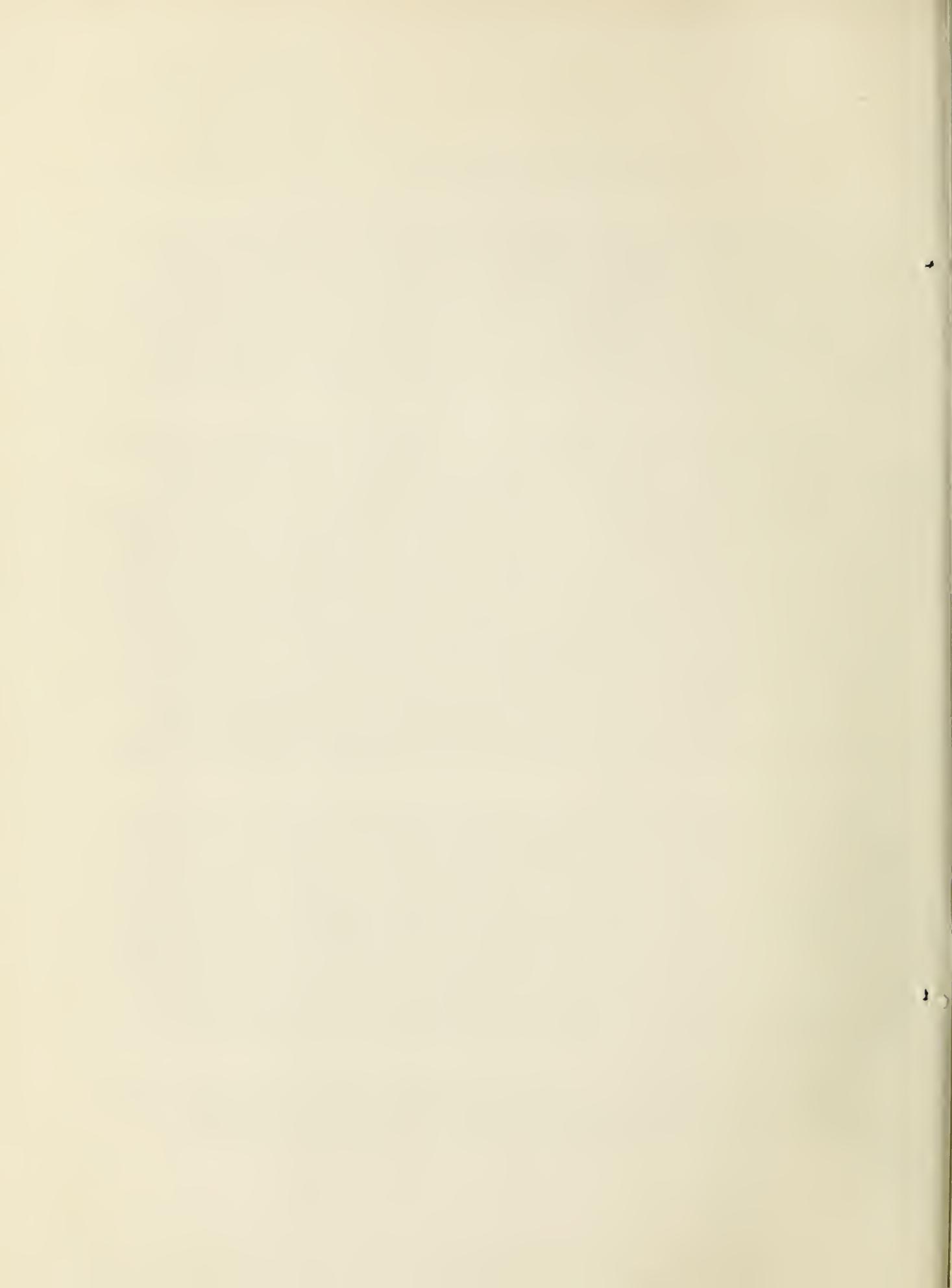


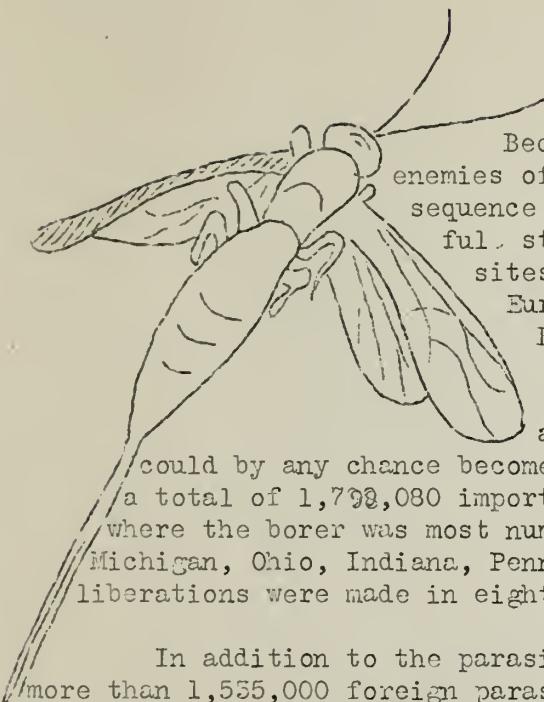
The continuation of such concerted and vigorous action by all farmers in the area in putting effective control measures into practice is the only immediate way in which commercial damage can be prevented. These measures include the destruction of all cornstalks, remnants of stalks, and corncobs in the fields or around the premises, before the emergence of the corn-borer moth. Effective methods of holding down the increase in the number of corn borers must be adopted into the farming practice generally, or serious readjustment of the present system of farming in the Corn Belt area will become necessary, as has already occurred in Canada since 1923.

It is estimated by the department that commercial damage from the borer usually does not begin until there are about 5 borers to the stalk or 500 borers per 100 stalks. The heaviest county-wide infestation in the United States campaign area this year is 113 borers per 100 stalks in St. Clair County, Mich. Although the infestation even in St. Clair County is not yet generally severe over the whole county, the serious condition prevailing over the Canadian line, according to the best information we have, indicates how rapidly the borers multiply and make it impossible to continue commercial corn production where effective control measures are not taken from the beginning of infestation. A concerted clean-up was made this year by the farmers in the infested area in Canada, and the number of borers was markedly reduced. Despite the clean-up, the infestation is still heavy and necessitates the continuation for some time of the adjustment of the farming systems of the Canadian farmers in this area from a livestock basis to the production of tobacco, sugar beets, and vegetables. Our Canadian neighbors are cooperating in a very fine manner, but this should not be taken as grounds for less vigilance on our part in combating the advance of the borer.

The joint spring campaign of the Federal and State forces having demonstrated the effectiveness of the control measures used in slowing down the increase of the number of borers, it is assumed that adequate control measures will be continued by the States affected. The department will continue to cooperate with the States in scouting to determine infestation, in the maintenance of quarantines, and in providing for necessary research and educational work in so far as the regular appropriations of the department for the purpose are available. There is a great need for adequate studies of the life history, habits, and relation of the borer to environment, the breeding of varieties of corn adapted to corn-borer conditions, the development of parasites of the borer, research in the use of different fertilizers, and the improvement of machinery for mechanical control.

It is believed that by the time the borer has spread over the Corn Belt, if not before, we shall have developed the most effective and economical control methods possible in keeping the damage by the borer to the minimum.



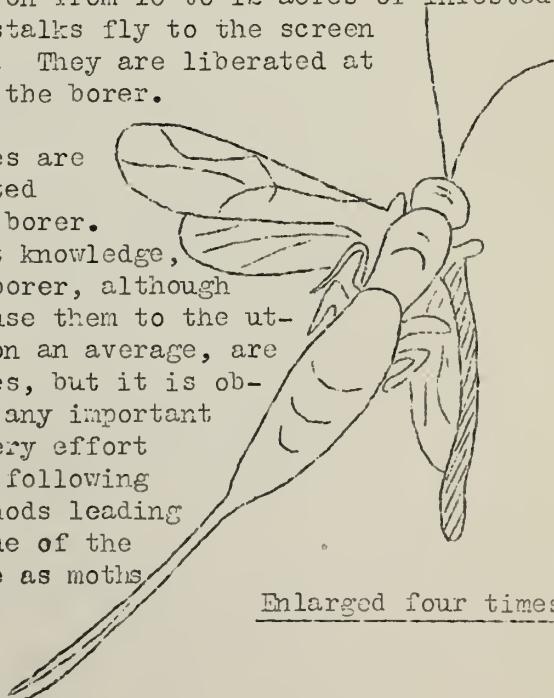
FOREIGN LEGION TO OUR RESCUE

Because native parasites and other insect enemies of the corn borer have proved of little consequence in reducing the numbers of the pest, careful studies have been made of the foreign parasites which attack the corn borer in its European home, particularly in France, Italy, Belgium, and Hungary. Twelve different species of foreign corn-borer parasites have been liberated in the United States after it was determined that none of them could by any chance become harmful to plants. Up to July 11, 1927, a total of 1,798,080 imported parasites had been freed in cornfields where the borer was most numerous, in 12 locations in the States of Michigan, Ohio, Indiana, Pennsylvania, and New York. In New England liberations were made in eight separate localities.

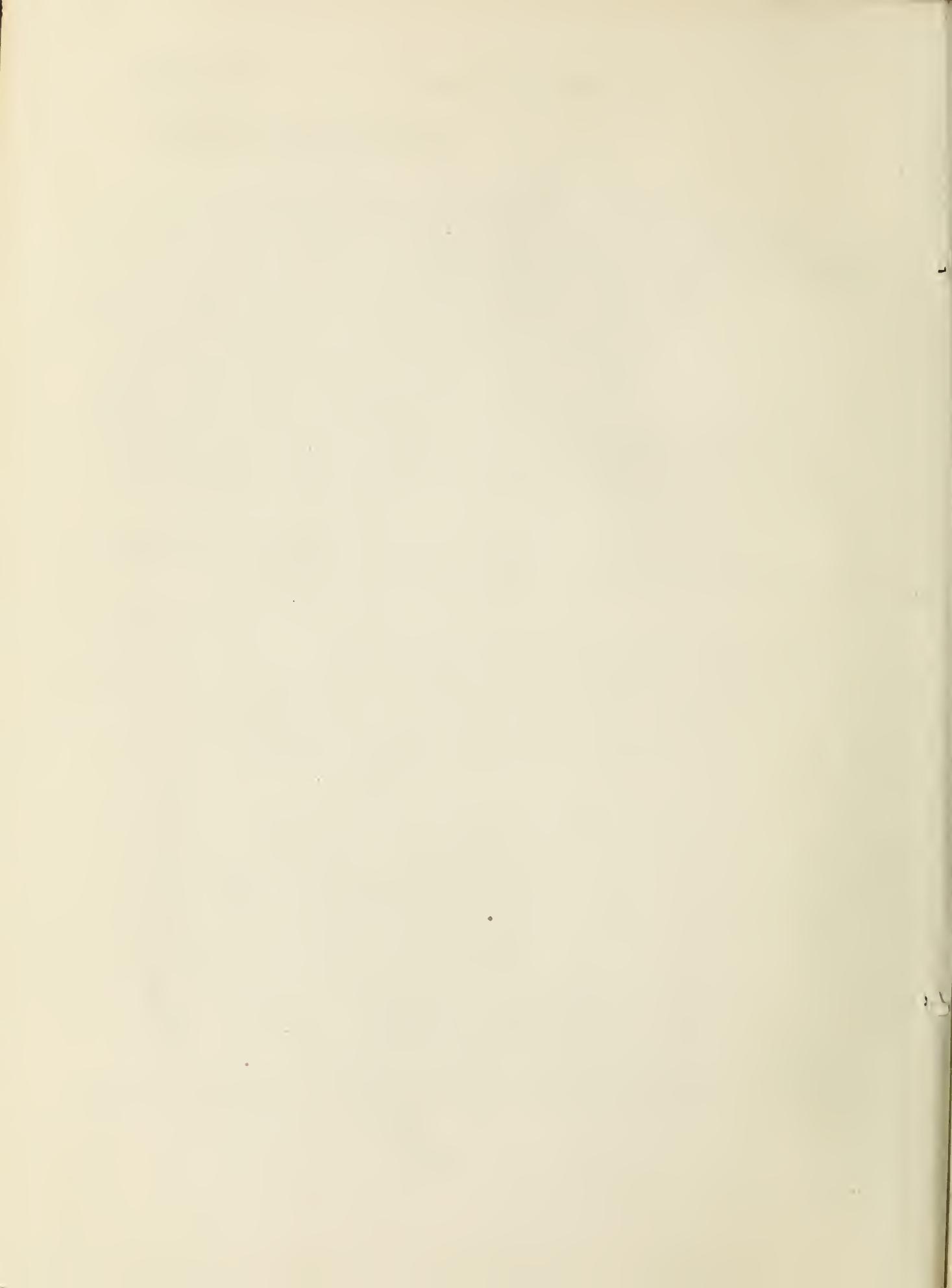
In addition to the parasites let loose from direct importations, more than 1,555,000 foreign parasites of the corn borer have been bred in Government laboratories and set at liberty in infested corn fields.

In order to aid in the conservation and spread of the foreign parasites of the corn borer, 10 large cages have been built, three in the worst-infested area of Michigan, three in Ohio, two in Pennsylvania, and two in western New York. These cages are covered with copper screen, and each cage is large enough to provide for the shocks of all corn grown on from 10 to 12 acres of infested fields. Parasites emerging from these cornstalks fly to the screen sides of the cage, where they are collected. They are liberated at suitable places within the area infested by the borer.

Of the 12 species liberated, 6 species are known to have become established in the United States and are now at work preying upon the borer. However, parasites can not, from our present knowledge, be depended upon alone to control the corn borer, although every effort has been and is being made to use them to the utmost. Less than 1 per cent of the borers, on an average, are being killed at the present time by parasites, but it is obvious that several years must elapse before any important effect can be expected. In the meantime every effort should be made to control the corn borer by following clean farm practices and clean cultural methods leading to the destruction or use of all corn residue of the previous year, before the corn borers emerge as moths in the spring.

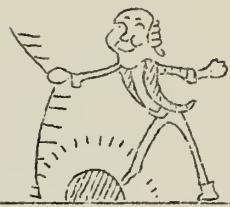


Enlarged four times.



ANNOUNCING

THE PUBLICATION OF THE NEW CORN BORER BULLETIN



The title of this new Farmers' Bulletin No. 1548, which is now ready for distribution, is "The European Corn Borer: Its Present Status and Methods of Control." It was written by D. J. Caffrey, entomologist, Division of Cereal and Forage Insects, and L. H. Worthley, administrator in corn-borer control, Bureau of Entomology, and it supersedes Farmers' Bulletin 1294, "The European Corn Borer and Its Control."

Some outstanding pointers as given in the bulletin's summary of control methods are as follows:

The main effort at control of the corn borer in the Middle West should be directed toward the disposal of corn refuse.

Infested plants may be disposed of through any one of the following methods or by a combination of such methods.

- (1) Feeding livestock direct from the field, or as silage, or as finely cut or finely shredded material.
- (2) Plowing under cleanly.
- (3) Burning completely.

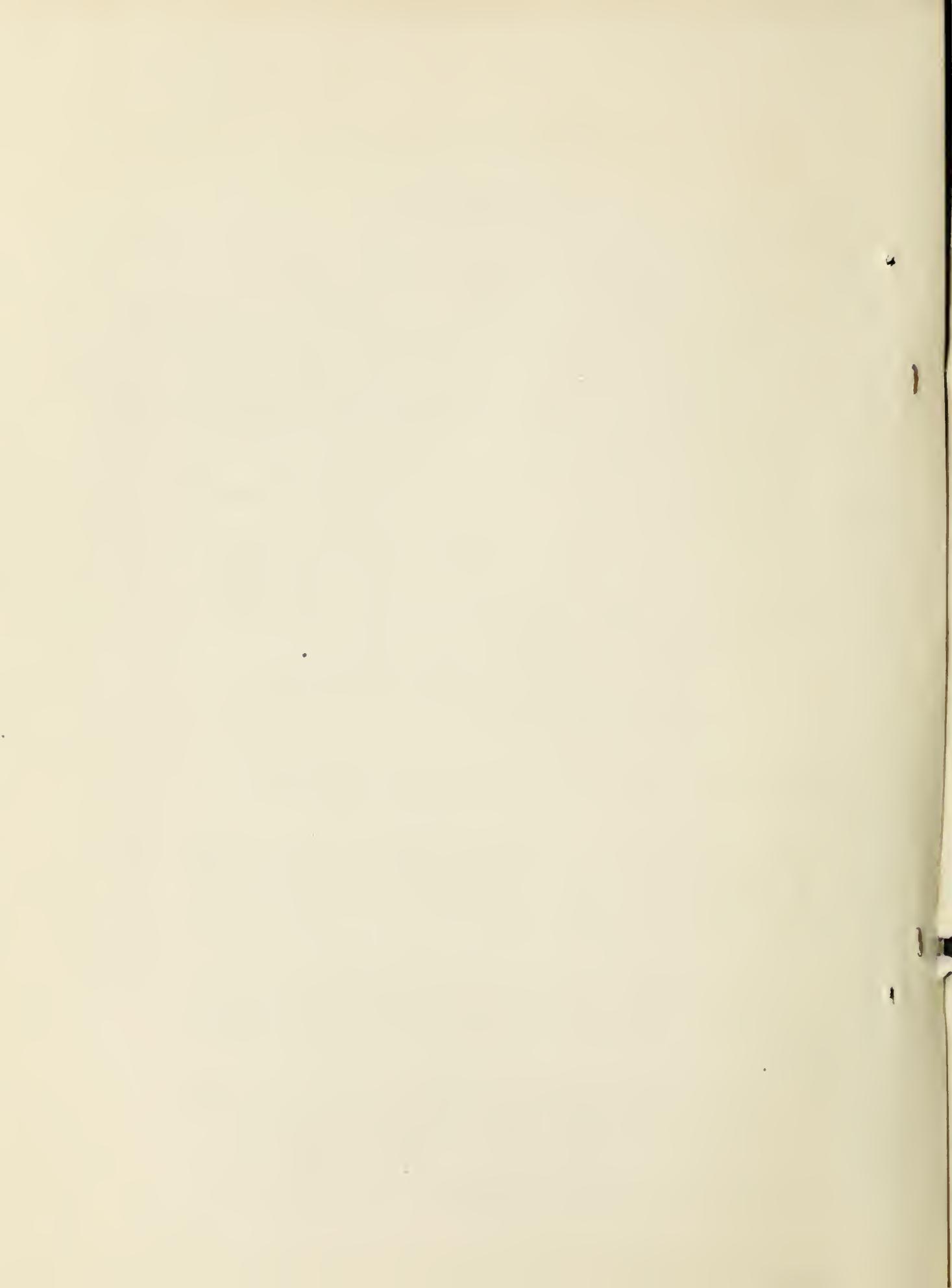
For the sake of safety the clean-up should be completed by May 1 of each year.

Before June 1 of each year burn all cornstalks that have been used for building shelters for livestock, for thatching, and for windbreaks, and similar purposes. This should also include surplus stalks stored for fodder and all stalks in and around barnyards and feed lots.

Corn from badly infested fields should be shelled not later than June 1 of each year and the cobs burned. Ear corn from such fields should be kept in a tight compartment or covered by fine-mesh wire screen to prevent the escape of emerging moths.

Corn planted late (after June 10) usually escapes severe damage by the corn borer, and such planting may be adopted as an emergency measure in areas where the pest is numerous.

Control of the corn borer depends upon community-wide effort. The corn growers must help one another.



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E "DISCOVERIES"

SCOUTING

for borers in new territory is still being carried on under the direction of L. H. Worthley. The following townships have been added since the last published list.

MICHIGAN

Alcona County: Curtis, Millen.  
Alpena County: Wellington.  
Arenac County: Whitney.  
Berrien County: New Buffalo.  
Iosco County: Baldwin.  
Presque Isle County: Bismarck, Krakow, Metz, Moltke,  
                          North Allis, Ocqueoc.

OHIO

Clark County: Moorefield.  
Fairfield County: Richland.  
Logan County: Lake.

INDIANA

Kosciusko County: Washington.  
Whitley County: Washington.

PENNSYLVANIA

Luzerne County: Hunlock.

